

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) An actuator component for a drop on demand ink jet printer, said component comprising a body having a top surface, an opening in said top surface extending in an opening direction into said body along an opening axis, a convex an actuator structure located substantially within said opening and an electrode means; said electrode means being disposed so as to be able to apply a field to said actuator structure so as to cause said actuator structure to deform.

2. - 3. (Canceled)

4. (Currently Amended) A component according to any preceding claim Claim 1, wherein said actuator structure extends as an impermeable wall across said opening.

5. (Currently Amended) A component according to any preceding claim Claim 1, wherein said actuator structure tapers along said opening axis.

6. (Original) A component according to Claim 5, wherein said actuator structure comprises a flat portion at the end of said taper; said flat portion comprising an upper surface and a lower surface; said upper and lower surfaces lying parallel with said top and bottom surfaces.

7. - 8. (Canceled)

9. (Currently Amended) A component according to ~~any one of~~ Claim 6 to ~~Claim~~ 8, wherein both said top surface and said bottom surface can move in said opening direction.

10. (Canceled)

11. (Currently Amended) A component according to any preceding claim Claim 1, wherein a plurality of openings is provided; each of said openings comprising a respective ~~isolated~~ actuator structure.

12. -14 (Canceled)

15. (Currently Amended) A component according to Claim 14 1, wherein said plurality of opening surfaces ~~define an opening that is elongate in a direction perpendicular to~~ said opening axis[;], said opening being a channel.

16. - 19. (Canceled)

20. (Original) A component for ejecting a droplet in a direction of droplet flight, said component comprising an actuator structure displaceable by actuation in the direction of said droplet flight; said actuator defining in part an ejection chamber and comprising a port through which said droplet is ejected.

21. (Currently Amended) A component according to Claim 20, further comprising ~~an electrode means~~, said electrode means being disposed so as to be able to apply a field to said actuator structure ~~so as to cause~~ said actuator structure to deform.

22. (Currently Amended) A component according to Claim 20 or ~~Claim 21~~, wherein said actuator structure comprises elongate channel walls defining an elongate channel.

23. (Original) A component according to Claim 22, wherein said actuator structure provides a convex cross section when a cross section is taken orthogonal to the channel length.

24. (Original) A component according to Claim 23, wherein said port is provided in the roof of said convex cross-section.

25. (Original) A component according to Claim 22, wherein said actuator structure cross section tapers in said direction of droplet flight.

26. (Original) A component according to Claim 25, wherein said actuator comprises a flat portion at the end of said taper; said flat portion comprising an upper surface and a lower surface; said upper and lower surfaces lying on planes orthogonal to said direction of droplet flight.

27. (Currently Amended) A component according to ~~any one of~~ Claim 20 to ~~Claim 26~~, wherein said actuator structure is homogenous.

28. (Currently Amended) A component according to ~~any one of~~ Claim 20 to
~~Claim 27~~, wherein said actuator structure is mounted to a base; said base providing one wall
of said ejection chamber.

29. (Currently Amended) A method of forming a component for an ink jet print
head comprising the steps of a) providing a body having a ~~mould~~ mold feature, b) forming a
deformable actuator structure, the shape of said actuator structure being defined, at least in
part by said ~~mould~~ mold feature, c) removing at least a portion of said ~~mould~~ mold feature,
and d) providing an electrode ~~means~~; said electrode ~~means~~ being disposed so as to be able to
apply a field to said actuator structure ~~so as~~ to cause said actuator structure to deform ~~whilst~~
while said actuator structure is attached to said body.

30. (Currently Amended) A method according to Claim 29, wherein said ~~mould~~
mold feature is provided by adding a material to a surface of said body.

31. (Original) A method according to Claim 30, wherein said surface is a top
surface.

32. (Original) A method according to Claim 30, wherein said surface is a
surface bounding an opening extending into said body.

33. (Original) A method according to Claim 30, wherein said material is a
photoresist.

34. (Currently Amended) A method according to Claim 29, wherein said ~~mould~~
mold feature is provided by removing material from a surface of said body.

35. (Original) A method according to Claim 34, wherein said material is removed by etching.

36. (Currently Amended) A method according to Claim 29, wherein the step of forming said electrode ~~means~~ comprises a first step of forming a first electrode layer and a second step of forming a second electrode layer.

37. (Original) A method according to Claim 36, wherein said first electrode layer is formed before forming said deformable actuator structure.

38. (Currently Amended) A method according to Claim 37, wherein in the step of forming said actuator structure, said electrode means are is immersed in a suspension comprising dispersed particles.

39. (Original) A method according to Claim 38, wherein said dispersed particles comprise piezoelectric material.

40. (Currently Amended) A method according to Claim 38 or Claim 39 wherein comprising immersing a deposition electrode is immersed in said suspension with said ~~first~~ electrode ~~means for, and~~ applying a voltage therebetween and thereby depositing said dispersed particles on said electrode ~~means~~.

41. (Currently Amended) A method according to ~~any one of~~ Claim 36 to ~~Claim~~ 40, wherein said second electrode layer is formed after forming said deformable actuator structure.

42. (Currently Amended) A method according to Claim 29, ~~wherein the step of comprising~~ removing at least a portion of said ~~mould~~ mold feature is achieved by etching.

43.. (Currently Amended) A method according to Claim 29, ~~wherein the step of comprising~~ removing at least a portion of said ~~mould~~ mold feature is achieved by washing.

44. (Currently Amended) A method according to Claim 29, ~~wherein the step of comprising~~ removing at least a portion of said ~~mould~~ mold feature is achieved by application of heat.

45. (Currently Amended) A method of forming a component for an ink jet print head comprising the steps of a) providing a body having a top surface, b) forming ~~an opening~~ a plurality of openings in said top surface and extending into said body, and[;] c) forming within each said opening an actuator structure; each said actuator structure remaining attached to said body during actuation.

46. (Original) A method according to Claim 45, wherein said actuator structures are isolated actuator structures.

47. (Canceled)

48. (Currently Amended) A method according to Claim 45, wherein comprising forming said opening ~~is formed~~ by etching material from said top surface.

49. (Currently Amended) A method according to Claim 48, wherein comprising applying a mask ~~is applied~~ to the body and wherein the opening thus formed tapers with increasing depth.

50. (Currently Amended) A method according to ~~any one of~~ Claim 45 to ~~Claim 49, wherein comprising applying an electrode means are applied~~ to an inner surface of said opening.

51. (Currently Amended) A method according to Claim 50, wherein comprising immersing said electrode ~~means are immersed~~ in a suspension comprising dispersed particles.

52. (Original) A method according to Claim 51, wherein said dispersed particles comprise piezoelectric material.

53. (Currently Amended) A method according to Claim 51 or ~~Claim 52, wherein comprising immersing~~ a deposition electrode ~~is immersed~~ in said suspension with said first electrode ~~means for, and~~ applying a voltage therebetween and thereby depositing said dispersed particles on said first electrode ~~means~~.

54. (Currently Amended) A method according to Claim 53, wherein comprising heating said deposited dispersed particles ~~are heated~~ to form said actuator structure.

55. (Currently Amended) A method according to ~~any one of Claim 45 to Claim~~
49, comprising the steps supplying a slurry comprising particles within said opening, the
slurry at least partly conforming to the shape of said opening.

56. (Original) A method according to Claim 55, wherein said particles are of a
piezoelectric material.

57. (Currently Amended) A method according to Claim 55 or ~~Claim 56, wherein~~
comprising heating said slurry ~~is heat treated~~ to form said actuator structure.

58. (Currently Amended) A method according to ~~any one of Claim 45 to Claim~~
~~49, wherein comprising laying~~ a flexible sheet of a piezoelectric material ~~is laid~~ within said
opening by applying a pressure difference thereto; said sheet at least partly conforming to the
shape of said opening.

59. (Currently Amended) A method according to Claim 58, wherein comprising
heat treating said sheet ~~is heat treated~~ to form said actuator structure.

60. (Currently Amended) A method according to ~~any one of Claim 45 to Claim~~
~~49, wherein, comprising depositing~~ a film of piezoelectric material ~~is deposited~~ within said
opening using a sputtering process; said film at least partly conforming to the shape of said
opening.

61. (Currently Amended) A method according to Claim 59, wherein said sputtering process comprises three metal targets of ~~Lead, Titanium and Zirconium lead, titanium and zirconium.~~

62. (Currently Amended) A method according to ~~any one of~~ Claim 60 to ~~Claim 61, wherein, comprising~~ heat treating said film to form said actuator structure.

63. (Original) A channelled component for a drop on demand ink jet printer comprising elongate channel walls defining a plurality of elongate liquid channels, each channel comprising one wall that is resiliently deformable in an actuation direction orthogonal to the channel length; a respective ejection nozzle connected with the channel at a point intermediate its length; a liquid supply providing for continuous flow of liquid along said channel; acoustic boundaries at respective opposite ends of the channel serving to reflect acoustic waves in the liquid of the channel wherein the inter-channel spacing of said acoustic boundaries is different to the inter-channel spacing of said nozzles.

64. (Original) A channelled component according to Claim 63, wherein the inter-channel spacing of said acoustic boundaries is less than that of the inter-channel spacing of said nozzles.

65. (Currently Amended) A channelled component according to Claim 63, wherein channels are ~~chevron-shaped~~ chevron-shaped.

66. (Currently Amended) A channelled component according to Claim 65, wherein a series of ~~chevron-shaped~~ chevron-shaped channels is arranged to one side of a

straight channel, the angle of said ~~chevron-shaped~~ chevron-shaped channels being more acute with increasing distance from said straight channel.

67. (Currently Amended) A channelled component according to Claim 66, wherein a reversed second series of ~~chevron-shaped~~ chevron-shaped channels is arranged on the opposite side of said straight channel.

68. (Currently Amended) A channelled component according to ~~any one of~~ Claim 63 ~~to~~ ~~Claim 67~~, wherein said channels are arranged on a tile, an array of nozzles extending linearly across said tile.

69. (Currently Amended) A channelled component according to Claim 68, wherein a plurality of like tiles are butted together along respective edges and wherein there is provided an array of nozzles having an equal linear nozzle spacing across the width of the like tiles and across the butt joint.

70. (Original) A channelled component according to Claim 69, wherein said respective edges are serrated.

71. (Original) A channelled component according to Claim 70, wherein the serrations of respective edges are interleaved.

72. - 73. (Canceled)

74. (New) A component according to Claim 1, wherein said opening defines at least in part an ink jet chamber.

75. (New) A component according to Claim 28, wherein said body is formed of silicon or alumina.